The MAC Flyer

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25th Anniversary Issue

MILITARY AIRLIFT COMMAND

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The MAC Flyer

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For Greater Safety and Efficiency in MAC Air Operations.

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Flyer Call

Twenty-five years of preaching the gospel of flying safety—that's 300 issues of *The MAC Flyer*, or nearly 9,600 pages, devoted to features, articles, and even cartoons and humor, all aimed at geting across one simple message: "Fly safe!" you might reasonably expect that such a concentrated barrage of information on one subject over such a long time span would have a profound impact, and perhaps it has. Sometimes reader feedback and the "grape-vine" tell us we are on the right track. Rarely, however, do we hear of accidents that nearly happened, but didn't, because the crew-members involved were forwarned of a pitfall or hazard by a *TMF* article they had read. We *are* pretty certain of a couple of "truths," though, judging by the similarity of so many mishap causes, and that certainty alone is reason enough to keep pressing on vigorously with our monthly flying safety crusade. First, the old guys (and now gals, too) tend to forget even the most pointed messages after a while; and second, new flyers coming into the multi-faceted MAC operation haven't heard them yet. As a result we are constantly challenged with finding new and interesting ways to both inform and remind all MAC's flyers about safety. With that in mind as a mandate, the *Flyer* should still be around cranking out "The Word" when it's time for a Golden Jubilee edition.

JGG

TMF Interview

MAC's Director of Safety talks about . . .

Safety, Spouses and Statistics

The MAC Flyer (TMF): Colonel Neeley, do you think the *Flyer* has made a difference in MAC's flight safety program over the last 25 years?

Colonel Ruel J. Neeley: Absolutely! The kind of information going out to the aircrews, support people and to others all over the world has got to make them more conscious of what we're trying to do and what *they* can do to prevent mishaps. Unfortunately, we can't know how many mishaps are prevented. I recently returned from a trip where I gave a safety briefing to major MAC units, and I emphasized that we can only measure the mishaps that occurred, not the ones that were prevented. We can tell them what the causes were — the contributing factors that lead to a specific mishap. But that's all after the fact, and in a way, the negative side of the safety business. The positive side is prevention and that's the hardest thing to measure.

TMF: Where does the responsibility for safety programs lie?

Neeley: Safety programs are the responsibility of commanders and supervisors. We in safety act as historians and keepers of numbers. Those numbers, whether good or bad, are the commander's — not the safey officer's. If the commander wants a good safety program, he gives it the priority it deserves and assigns good people to it. Then he stays with them — spends some of his time with them regularly. He uses them as an advisory staff; experts in the areas of conducting effective mishap prevention programs.

TMF: Do you see many significant differences in aircrewmembers over the past couple of decades?

Neeley: No, not really. Quite often today we hear that the crew force is getting younger. Yet, when I think back on my second assignment after pilot training, I was at an overseas base living in a BOQ with 30 other officers, and I was the senior man as a first lieutenant with only six months in grade. I don't think we have that kind of inexperience today. We lost a lot of aircraft in those days, but it was due more to the equipment than to the aircrews. Today, more aircraft are lost due to aircrew failures.

TMF: What are some of the differences in the flying safety program over the years?

Neeley: Well, I was an additional duty flying safety officer early in my career, and to tell you the truth, it was a scramble for me to get material to cover at safety meetings. I don't think the commanders were as involved back then as they are today. It was more of a square-filler than it is now. I feel that the majority of our commanders today are personally involved with safety—they are just more interested.

TMF: What impressions did you get concerning the pilot retention problem from crewmembers during your recent trip?

Neeley: I got the impression from talking to several crews that getting out has become the thing to do. I feel that people are getting out just for the sake of getting out, and many don't seem to have anything planned as an alternative. I flew with a young pilot who got off active duty six months ago and has not had a job since. He is flying part time with the Reserves and said he would probably be starving if it wasn't for the Reserve program. I think this happens more than we hear about. I also get the impression that uncertainty about the future of retirement programs, pay, benefits and such things is so great that many folks just aren't willing to wait and see what will happen—be it good or bad, I

also heard some things that indicate the wives are having a greater impact on the member's decision to stay in or get out. I believe wives embarking on their own careers has certainly had an impact on the young crewmember. When two people are each pursuing careers, sometimes things just aren't compatible, and somebody's got to give. I think very often today the young pilot is not pursuing his career in the Air Force because his wife wants a more stable life and in many cases a career of her own.

TMF: What airplane did you check out in after pilot training?

Neeley: Well, I flew the C-119 for about four years. I think I probably established a record in that airplane, because I flew it for 2,500 hours and never had to land with an engine feathered.

Young pilots and young engineers:

that combination scares me just a little.

TMF: How does your flying experience compare with today's airlift picture?

Neeley: The days of people accumulating 10,000 hours, as I did, with less than 20 years of flying, are gone. I spent very little of my career actually flying the line—probably less than five years. The rest has been attached flying.

TMF: How were you able to get so many hours in a relatively short time?

Neeley: I flew the C-118 for several years and came out with more than 5,000 hours. It was a good weapon system and we had a good mission that lent itself to lots of flying hours with minimum time expended. You can be sure that I spent many weekends and holidays flying, because I enjoyed it. Also, for three years, I averaged over 100 hours a month in attached status. We depended a great deal on our attached people from '58 to '65. Some of our attached crewmembers were strong, some very weak. We recognized that, but we had experienced flight engineers to depend on. Today we're seeing young pilots *and* young engineers, and that combination scares me just a little. If you have experienced pilots, then I don't think the experience of the engineers is quite as important. But, you need one or the other.

TMF: Do you think it will ever be possible for the flight safety people to work themselves out of a job?

Neeley: That's Utopia! But I can't think of anything we'd rather do than work ourselves out of a job. It's sad that we have to dwell on the mishaps that we've had rather than telling people about the ones they have prevented. When you compare MAC with the other commands, our '78 statistics show that only ATC had fewer Class A and B mishaps than we did. That tells you we're doing a pretty darn good job! But we sure can't be satisfied with the increased mishap rate per 100,000 flying hours. We went from .8 in 1977 to 1.3 in 1978—and that's unsatisfactory as far as I'm concerned. When you get down to that plateau of .8, things have got to be almost perfect. You've nearly reached Utopia. Any improvement beyond that rate requires a tremendous amount of effort on everybody's part—but there's no doubt in my mind that it can be done.

TMF: Thank you, Colonel Neeley, for your time and your candid views on a variety of subjects of interest to aircrewmembers.

USAF photos by SSgt Kathleen Kresge

Captain Brinkley and Crew

One of the things which keeps flying "interesting" is the fact that with little or no warning, a perfectly routine mission can turn into an airborne simulator ride about as quick as you can say, "Engine-Shutdown Checklist!"

While cruising along comfortably at 17,000 feet on a stateside support mission, this is exactly what happened to Capt. Michael E. Brinkley and his C-130E crew. About an hour after takeoff, the propeller-low-oil light for number four engine illuminated. Captain Brinkley followed Dash One emergency procedures, a pitchlock check was done, and the engine was caged. Even though everything was momentarily under control, the AC elected to divert to Pope AFB, North Carolina, where he knew the weather was favorable and maintenance was readily available.

Some five minutes later, number three prop-low-oil light came on. Brinkley and Company repeated the routine they had just performed for number four. But this time, the AC opted to hold off on the actual shutdown. Due to the heavy gross weight of the Herk (about 130,000 pounds), he wanted to delay until fuel dumping was in progress. (The C-130 Flight Manual classifies two-engine operation in excess of 120,000 pounds as marginal.)

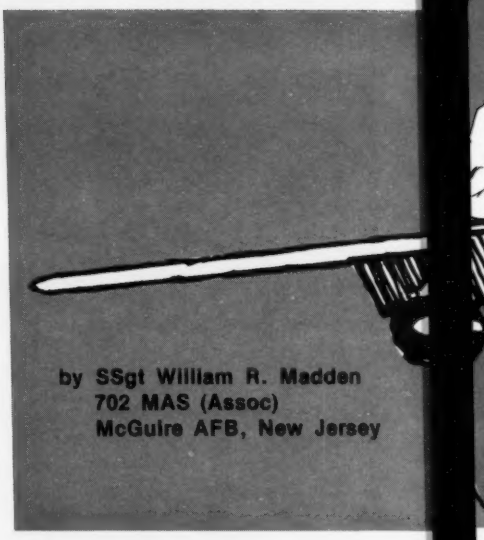
Fuel jettisoning and emergency descent were started, but shortly thereafter, number three prop rpm began fluctuating out of limits and the Captain was left with no choice but to feather a second engine. Eventually, with the weight down to a more reasonable level, the crew stabilized the Herk at a safe airspeed and an altitude of 5,000 feet.

At the onset of problems with number three, Captain Brinkley had requested and secured an emergency diversion to Dobbins AFB, Georgia, which reported less favorable weather but was closer. Over the field were layers of broken clouds at 2,000 and 4,000 feet, and visibility was 10 miles through light snow. Winds were strong and gusty out of the northwest. (A right crosswind caused the Herk to crab into the failed engines). Despite the weather and some frustrating air traffic control coordination problems that cropped up, Captain Brinkley followed radar vectors to Dobbins for a PAR and made an "uneventful" no-flap approach and landing with two engines out on one side.

The MAC Flyer is proud to recognize the superior airmanship of Captain Brinkley and his able crew. Knowing the proper procedures and exercising quick, decisive measures when unexpected and unusual multiple emergencies happen is what safe flying is all about. Good Show!

Honorable Mention, 1978 MAC Flying Safety Writing Contest

At Decision Height in the Darkness



by SSgt William R. Madden
702 MAS (Assoc)
McGuire AFB, New Jersey

After a long channel mission, the crew's final letdown brings them to an unexpected level.

In the Starlifter's cockpit the sunset show was over. The long crossing of the North Atlantic had been accented by the firey glow of clouds painted crimson by the setting sun. Even so, when sundown finally came, the crew was relieved to be rid of the glare. Wispy high cirrus clouds stretched into stratus layers as the Starlifter cruised westward at FL 330. Suddenly it was bucked by turbulence. A severe jolt ejected one of the rear life rafts from its overhead silo, but the loadmaster quickly secured it with tie-down straps. The passengers seemed worried, so he reassured them and then strapped himself in.

"Navigator, you got anything on the scope?" the AC asked as he switched on continuous ignition.

"Negative. I've got it on 100-mile range and don't see anything to worry about."

The second engineer strapped tighter into the jump seat and the pilot and copilot cinched down their lap belts, too. "We could ask for lower," suggested the copilot.

"I'd advise against it, sir," warned the engineer. "As it is now, we'll be arriving with 15,000 pounds, and Dover as an alternate."

"Yeah, well, it was just a thought," the lieutenant recanted.

"This shouldn't last too long," observed the navigator. "We're in a low pressure system that's moving north and east from New England. Things should be better when we do get to McGuire—might be windy is all. Present winds correspond with the 250-millibar prog chart."

"A meteorologist, of all things," commented the right-seater sardonically.

"You know it. And when I'm gone, who you gonna get to pick out storm cells? The INS?"

The AC, Captain Tom Turner, was pleased with this crew. They had been aggressive and cooperative; they'd even made two early departures in a row. The Starlifter had behaved well; an inop radar altimeter was the only write-up.

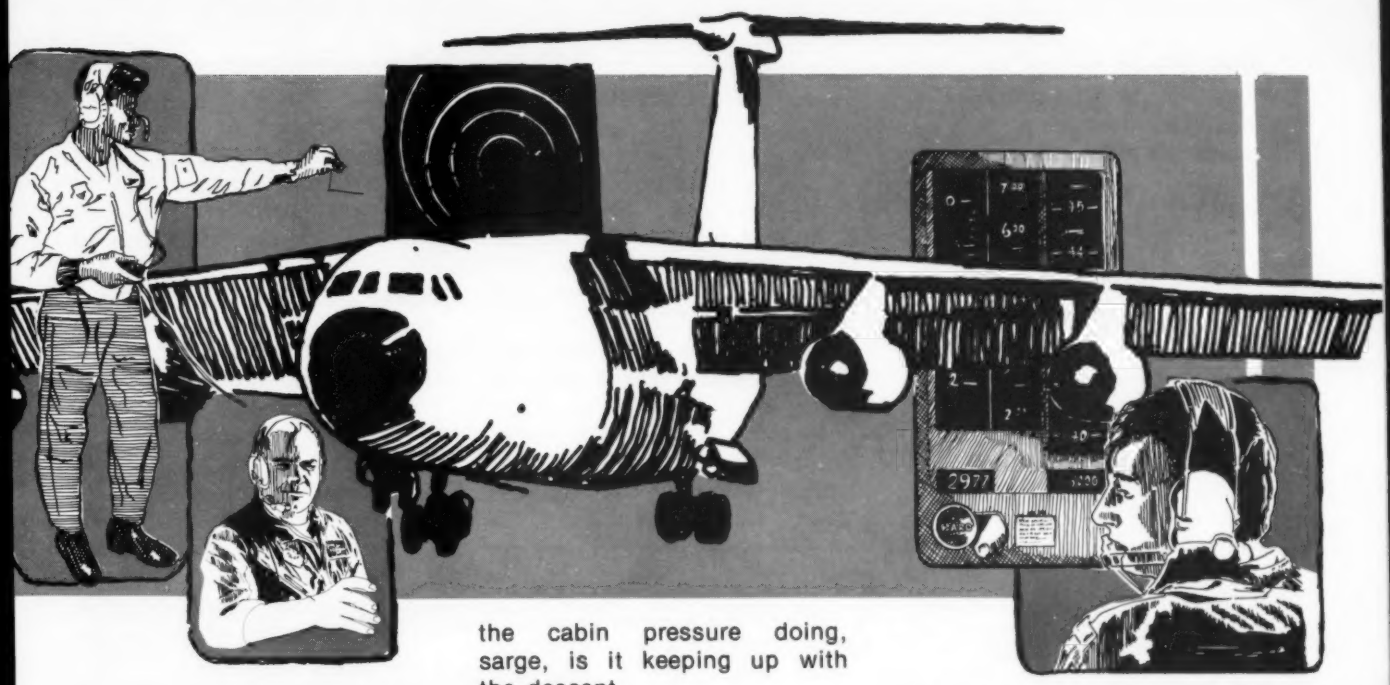
The navigator's prediction held true and the ride soon smoothed out. They deviated around a couple of imbedded storm cells and coasted into placid air.

"Cap'n Turner," called the loadmaster as he handed a customs declaration forward to the AC.

"Thanks, load. I knew I'd forgotten something." He filled it out and signed it. "Only good wine this trip. Straight from the valley of the class six store."

He handed the form back to the sergeant and noted his weary eyes. Well, it won't be long now, Tom thought, he hadn't realized until now just how tired they had all become.

Within an hour they were in contact with center. The AC started setting up for the last approach and landing. "Crew, pilot, let's get ready for descent. Attention to briefing. We'll expect vectors to the ILS final approach course for zero-six; that's



on page 178 in Volume 8. Last altimeter setting for McGuire is . . . What did Loring say, Mike?"

"Two-niner point seven-seven," interjected the co-pilot.

"That's kinda low," warned the navigator.

"We'll update that with center and the ATIS is notamed out for our arrival time," continued the captain.

The clouds broke into layers as they approached McGuire. Center had kept them high over the East Coast and now cleared them for a descent into the terminal area. The left-seater reduced the power slowly and opened the spoilers to the max-flight position. MAC 639 buffeted downward meeting ATC's altitude restructions.

"Good grief, they ought to call this a fighter penetration," complained the copilot. "Don't they know we've got passengers?" He yawned widely to pop his ears. "How's the cabin pressure doing, sarge, is it keeping up with the descent.

"Nope," responded the panel engineer, "We're coming down like a rock."

"Load, pilot. How are the passengers doing?"

"Fine so far, sir. Better than they were back in the rough stuff. I told them we would be going down fast and to keep ahead of their ears."

Navigator: "So who you gonna get to pick out storm cells when I'm gone—the INS?"

"Mike, contact metro and get us the latest weather—no, better make that command post. We're getting pretty close in. See if you can trade them an arrival message for some local weather."

Captain Turner leveled the C-141 at 3,000 feet, still in the weather, followed the controller's vectors to the localizer, and called for approach flaps. This command seemed to set off a clamor in his headset. The UHF cracked, "MAC 639, cleared for the approach. Altimeter—"

"Pilot, load," interrupted the interphone.

". . . seven, winds 345 degrees at 15 gusting to 25."

"Standby, load."

"Uh, roger MAC 639 cleared for the approach. Do you have an RCR?" asked the co-pilot.

"Runway 36 RCR reported as 18. We'll give you a circling approach to 36 when you're VMC, if you'd like."

The AC responded, "Sounds good, we're still in the clouds at 2,500." He had heard another aircraft report the ceiling at 700 feet and thought, this landing will be easy. "Now who called? Loadmaster?"

"Yes, sir. We have a sick little girl. Nothing serious, just thought you should know."

"Thanks, sarge," replied the AC. "We'll be on the ground in about 10 minutes."

Tom wished for the hundredth time that they'd tie the loadmaster's interphone into the radios so he'd know when not to talk. "Continue the before-landing checklist, please."

"Altimeter set 29.77, copilot."

"29.77, pilot."

"29.77, navigator."

Turner eased the Starlifter into a descent along the ILS glideslope. Passing 2,000 feet, the C-141 was configured for landing and the ILS needles were all centered. Passing 1,200 feet Captain Turner figured they should see the ground soon since the ceiling was reported as broken. Passing 700 feet, still no sign of lights. "Copilot, you see anything yet?"

"No, sir."

"That's strange, the other crew reported the ceiling at 700 feet."

"Can't see a thing yet, captain," advised the right-seater. "Hundred above."

The AC's hand gripped the four throttles firmly in anticipation of a possible missed approach.

"Go around!" instructed the copilot.

Turner pushed the throttles forward and raised the Starlifter's nose. "Go-around EPR, flaps takeoff, give me a heading and altitude, nav." The big jet surged upward in the darkness, splitting the silence of the McGuire sky.

"MAC 639, observe your missed approach, say intentions," querried the controller.

Captain Turner took the radios, "We'd like to know why you're giving circling approaches when the field is below landing minimums?"

"Tower says the field is good for circling, sir. We have weather calling a ceiling of 700 feet and viz of five miles."

"Sir," the engineer in the jump seat tried to interrupt.

"Just a second," the AC cut him off and told approach, "We were down to minimums and didn't. . ."

The second engineer tapped the captain on the shoulder and thrust a piece of paper onto the center console. Written on the paper in large letters was, "Philly altimeter 30.17."

Pilot: "I'd like to know why you're giving circling approaches when the field is below landing minimums?"

"Picked that up from the Philadelphia ATIS. Just thought I'd check; we're in the same ballpark as they are."

The AC checked his altimeter—29.77. No, that was impossible, he thought, they all couldn't have made the same mistake. That would put them 400 feet high. He asked approach for the numbers again; they confirmed his error.

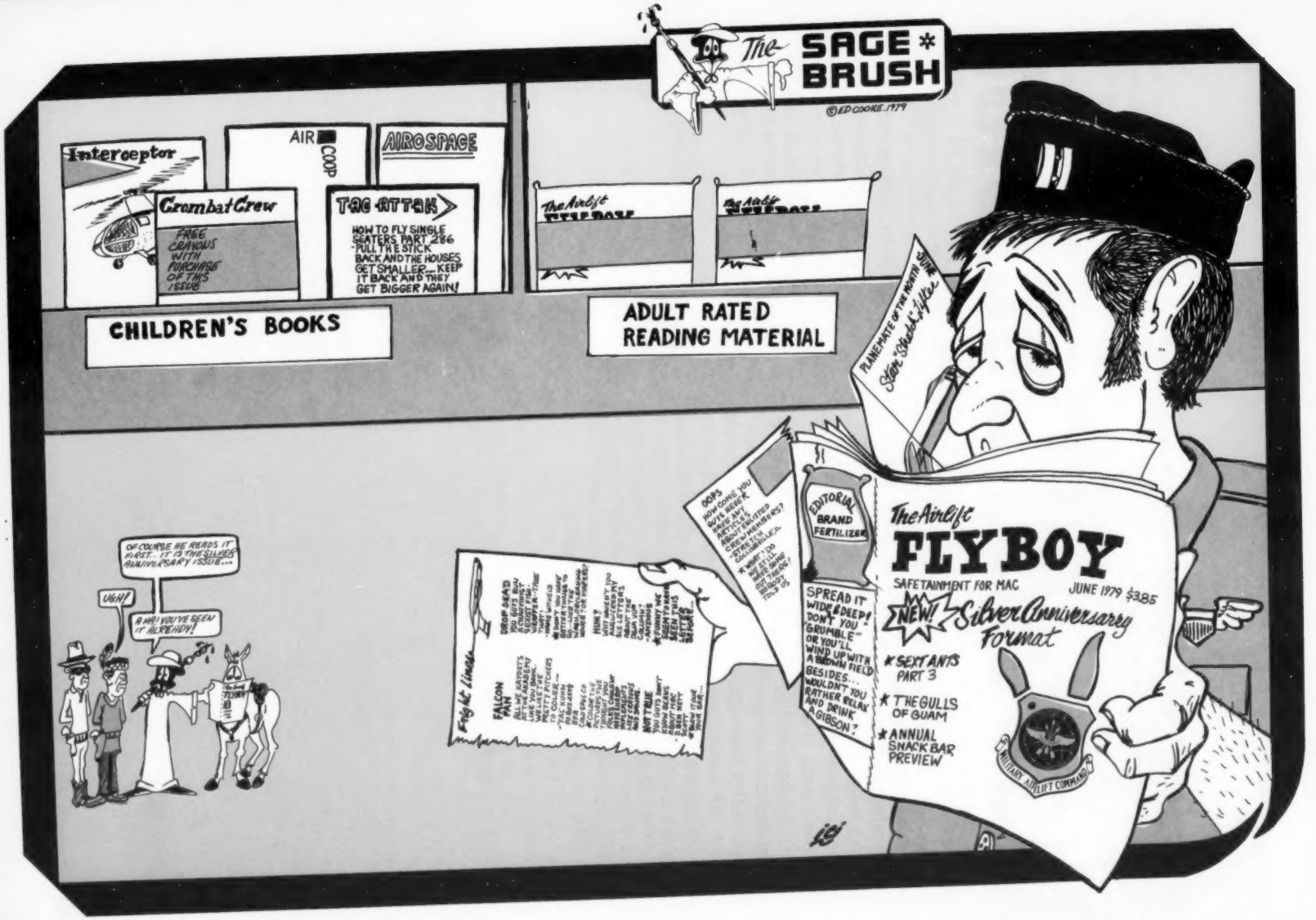
"Mike, tell approach we'd like to try the ILS again and we'll circle to 36 if we break out."

The altimeters were corrected in the suddenly silent cockpit. Turner pondered the unthinkable for a few seconds. What if this had been a Cat II approach, down to 100 and a quarter, and if the error had been 400 feet the other way? Would the investigators have ever known after the accident that the correct altimeter setting had been unintentionally blocked by a loadmaster's interphone transmission? He made a mental note to tell his copilots to recheck the altimeters during the maneuvering for approaches. They'd learned an important lesson—fortunately, without an accident.

Captain Turner let the lieutenant fly the second ILS approach and took the airplane as they broke out into the clear damp night air above the airfield. The circling approach was routine and the landing gentle. They were all glad to be on the ground safely—and a little wiser.

ABOUT THE AUTHOR

Staff Sergeant Madden began his military career as a radar operator in 1956; he now flies as a loadmaster with the USAF Reserve. In civilian life, Mr. Madden is an active aviator, holding a commercial pilot's license with instrument rating; he flies forest fire missions and other jobs for the New Jersey Department of Agriculture. He has a batchelor's degree from Fairleigh Dickinson University and substitute teaches. This is Sergeant Madden's third article in the *Flyer*, and his second winner in the flying safety writing contest.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AIR COOP
AIROSPACE
Combat Crew
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TAC ATTACK
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Mishap with a Moral

Obscured Decision

Wisps of visible condensation trailed the wingtips as the sleek C-9 rolled into a gentle descending turn and entered the ragged tops of the clouds. It was cold at FL 200 and a bone-chilling wetness saturated the overcast all the way to the ground, lingering there in the silent fog and drizzle. Morning's light was diffused by the gray shroud which hovered over the airfield. Out beyond the threshold, the flashing strobelights reflected their brilliance off six inches of snow and ice left on the overrun from the previous day's winter storm. A thin film of water glistened on the runway.

Inside the warm cockpit of the airevac jet, the crew was going through descent checks and tuning the radios to approach control. The flight examiner, in the jump seat behind the pilots, rechecked weather at their destination. "Visibility is still right at minimums and they're reporting the first 2,000 feet of the runway obscured by fog," he announced.

"Okay," said the left-seater, "We'll try the PAR as briefed."

Soon, they were being vectored toward the final approach course.

As the examiner monitored the new AC's progress during the approach, he mentally reviewed the flight thus far . . . only minor descrepencies and plenty of strong points. All he's got to do is break out of this weather at minimums and he's home free, he mused. The controller called for them to begin descent on the PAR final.

"On course, on glide-path, winds calm, cleared to land; drifting slightly left of course, turn right 282 degrees," droned the final controller.

Below, the fog continued to roll across the approach end of the runway in dense ragged patches. The whine of the engines could be heard through the dripping clouds as the C-9 hurtled down final at 130 knots, its flaps fully extended and the landing gear poised for the touch-down only seconds away. Everything looked good.

"I've got the strobes," the copilot announced as they passed 600 feet above the ground. At 300 feet, the pilot could see the approach lights and the runway centerline.

"Land!" called the copilot as the altimeter unwound through decision height.

Suddenly, about 100 feet above the ground, the plane entered one of the drifting patches of fog. The pilot could see nothing, no lights, no runway—only solid gray. Instinctively, he brought the nose up slightly and began slowly bringing in more power at about the same time the flight examiner told him to take it around. They felt the sink rate increase as the aircraft seemed to fall out from under them. The left-seater pushed both throttles forward and the engines were winding up when the Nightingale slipped out of the bottom of the fog and hit the overrun, 500 feet short of the runway. High G forces buckled the gear and creased the fuselage. Ice

crusted snow, splattered upward by the left main gear, hit number one engine causing catastrophic failure.

Before the pilot could react to this jarring impact, the jet bounced into the air and slammed into the overrun again, this time 50 feet from the threshold. The vain attempt to go around now became a desperate effort to regain control of the airplane and stop it on the runway. Not realizing that number one had failed, the pilot placed both throttles in full reverse, stood on the brakes and applied full left rudder and aileron to counter the effects of the asymetrical reverse thrust. Noticing the bad engine, the FE reached up and pushed number two throttle out of reverse which helped them regain control. After knocking out two runway lights with the right flap, the C-9 finally came to a stop on the runway. Miraculously, no one was injured, so they taxied in and parked. Only after deplaning did the crew realize the extent of the damage.

Why did this approach, which was going so well, end in near catastrophy and major structural damage and engine disintegration? It is clear that the pilot failed to use correct missed-approach procedures after going into the fog below decision height. In the landing configuration, any increase in pitch attitude without a simultaneous increase in power can result in an accelerated sink rate in the C-9. Leaving the flaps in the full-down position was also contrary to correct go-around procedure. Finally, putting both engines in full reverse with a failed engine caused the skid to the right which nearly ran the Nightingale off the runway. All these factors are fairly obvious and easily substantiated. But, why didn't the pilot execute an immediate go-around? Why was he slow in bringing in the power, and why didn't he call for the flaps?

The answer lies in a phenomenon called "landing expectancy." Not only do we expect to land from an approach, but through repeated successful approaches and landings, subtle conditioning takes place in our minds and makes it difficult to do anything else. We can become spring loaded to the "land" position. At decision height, we're conditioned to do one of two things, either land or go-around. So there's little wonder why it's very difficult to reverse the sequence after the copilot calls "land."

We can overcome this insidious mind-set by consciously planning ahead for those situations which might require that we override our usual responses. We can decide prior to every approach what our own minimum acceptable conditions for landing are. If we include in our mental list of real possibilities a go-around below decision height, then we'll be ready to do one without hesitation. Being spring loaded makes good sense —as long as it's to the "prepared" position.

Wing Roots

by MSgt William E. Collins
41 MAS
Charleston AFB, South Carolina

A chronicle of colorful, but often overlooked, cargo and passenger airlifters from days gone by.

It begins with a rather simple question (Why are they the worst kind?) "You know what a C-47 was, but how about a C-48?"

The answer goes back to 1924 when the Army changed the designation for cargo and passenger carrying aircraft from "T" for transport to "C" for cargo. The first of the new designs was the Douglas C-1 Transporter.

At that time the mark of a good transport was the ability to carry an aircraft engine which was generally about the same size as a modern automobile V-8. The C-1 met this criteria, but loading was done by first lifting the tail of the aircraft onto a sawhorse and then hoisting the engine through a trap door in the bottom of the fuselage with a block and tackle. This operation required the work of three men for two hours and almost always left dents in both the cargo and the aircraft. Before you think how far we have come, though, remember what we still go through to put a C-5 engine into a C-141.

The original C-5, by the way, was a U.S.-built Fokker F-10A Super Trimotor which the Army bought in 1929—they paid $68,500 for it. That same year they also bought the first of their new C-8s, which was the Fairchild Model 71 similar in appearance to a Piper Cub. The interesting feature of this aeroplane was that the wings folded back along the fuselage for storage. They were held in the extended position by two locking pins which were backed up by two Yale hasp locks to prevent tampering.

In 1931 Lockheed built an all-metal speedster version of their popular Vega for the Army. The aircraft was given the designation Y1C-17. It was faster than any airplane, fighters included, that the Army owned at that time. . .something like a Learjet capable of outrunning an F-15.

The Army bought two Curtiss Condor transports which they tagged YC-30s in 1933. One of these served for a time as the first "Air Force One" for President Franklin D. Roosevelt. Eventually, FDR had a greater number of different aircraft set aside for his personal use than any other chief executive to date. Ironically, however, Mr. Roosevelt was reluctant to fly and only did so once.

The Army bought another "hotrod" from Lockheed in 1936. This time it was a Model 10-E Electra with the military title XC-35. Built with a double fuselage, it was used for experiments in cabin pressurization and engine supercharging.

The Army purchased its first DC-3 in 1938, and it was named the C-41. Originally used as a staff transport for General "Hap" Arnold, this venerable old airlifter was still flying for the FAA as late as 1970.

During the early years of aviation, the U. S. usually bought locally built aircraft for its embassies, because of the difficulty in maintaining a single American-built aircraft overseas. The embassy aircraft were not normally given U.S. Military designations, but were referred to by their manufacturer's nomenclature.

In 1939 the U. S. Government bought one Messerschmitt Model BF-108 Typhoon for the embassy in Berlin. A four-seat sport plane with a strong resemblance to the famous ME-109 fighter of WWII, it was given the military designation XC-44 along with an Army serial number. Possibly, this was a legal move to keep the German government from impressing the machine as private property. If so, the ploy didn't work, because in 1940 it was conscripted into the Luftwaffe.

Curtiss-Wright Company began work in 1933 on its Model CW-20, which was to be a competitor to the Douglas DC-3. When the prototype was completed, the Army bought it for tests and dubbed it the C-55. For some strange reason, production versions of this design were given the designation C-46. Meanwhile, the original C-55 was transferred to England under a Defense Aid Program.

Early in the 1940s, with U. S. entry into WWII almost assured, the Army started buying airplanes as fast as it could. They took over contracts for aircraft being built for the airlines, and bought and in some cases traded aircraft with the commercial flyers. After Pearl Harbor the Army snapped up planes from private owners and purchased what must have been a large part of the civil air fleet of the country of Panama. These aircraft were given a host of "C" numbers based on model differences and —in some cases—where the aircraft had come from.

Prior to WWII the designation C-32 had been used to describe a single Douglas DC-2 owned by the Army. Later this title was extended to include several DC-2s received from the airlines. Likewise, the identification UC-36 was given to three Lockheed Electras in 1937, and in 1942 the category was expanded to include all "used" Electras bought by the Army. The designation C-48 (Remember the original question?) was given to a group of DC-3s which the Army bought right off the assembly line by taking over airline orders. The same is true for the C-49 through C-52 series.

From private owners came a group of Howard DGA light planes called UC-70s. Similarly, the label UC-71 was given to 16 Spartan Model 7 "Executive" airplanes.

Panama was the source of a Junkers JU-52 with the designation C-79. While this aircraft was serving with the U.S. Army, a similar machine was being used as Adolf Hitler's personal transport. One Hamilton Model H-47 (designated UC-89) arrived by the same route, and was later joined by an Akron Funk Model B with the designation UC-92.

During World War II, with aircraft-grade metal being used as fast as it could be produced, a lot of thought was given to building a series of transport planes of "nonstrategic materials." Several projects were started with this in mind and these met with varying degrees of success.

First to try producing such an aircraft was the Waco Company. Their design included twin engines and was to be built of plastic-bonded plywood. Unfortunately, the program dragged on for years without even producing a prototype.

The next attempt was also an all-plywood design from the Curtiss Company. A total of 19 Curtiss C-76s were built before everyone concerned came to the conclusion that the wooden hulk just wouldn't be able to do the job.

Meanwhile, the Edward G. Budd Manufacturing Company, which specialized in welded stainless steel products (including railroad cars), submitted a proposal. The Budd design made use of a supply of stainless steel scrap from other manufacturing and was called the C-93 by the Army and RB-1 by the Navy. The Army dropped out of the program; but the Navy stayed on to take delivery of 17 of the 26 aircraft built. Most of these aircraft were sold as surplus after the war, and several were operated by Flying Tiger Airlines. Rumor has it that a few are still flying in South America.

The only real winner to develop from this series was the Fairchild C-82 Packet. It began as an all-plywood design, but as the prospects for the Packet improved, the number of components of metal steadily increased until it was finally produced as an all-metal design. The Packet was of course, the forerunner of the venerable C-119.

Transports and bombers were—in the early days at least—first cousins if not brothers, and for this reason the two were forever imitating each other. Douglas Company redesigned their DC-2 transport into an ugly duckling bomber known as the B-18 Bolo. Unfortunately, it didn't

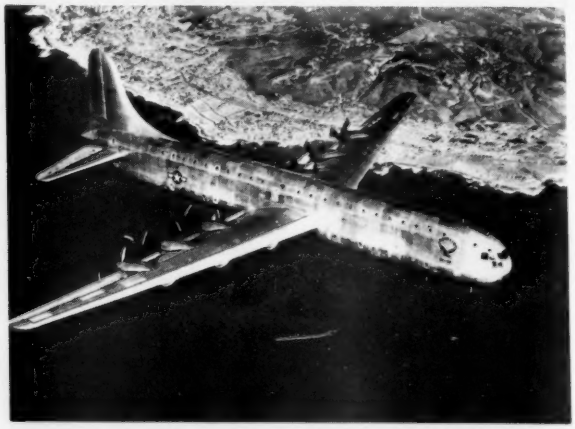
Douglas C-132 design proposal lost to the company's smaller C-133.

Curtiss Condor, YC-30, was the first Army Air Force airplane reserved for the President.

fly any better than it looked. During WWII the Bolo was hopelessly outclassed as a bomber and the Army converted a pair back to transports, labeling them the C-58.

After the failure of the Bolo, Douglas set out to design another bomber based on the DC-2/DC-3. If the Bolo had been an ugly duckling, the new B-23 Dragon was a very clean ship that looked quite similar to a baby B-17. The Dragon broke new ground in the field of armament, being one of the first aircraft equipped with a .50-cal machine gun. It was mounted in a tail turret, which was the first of its kind on any U.S.-built bomber. No nose armament was included because designers theorized that the Dragon was too fast (at 280 mph) for any fighter to get in front of it. During 1942 the Army converted 12 of the 38 Dragons to transport configurations and designated them the UC-67. These aircraft had the bomb bay, tail turret and armor plate removed and seats installed.

The C-87 was the transport version of the B-24 bomber, and featured loading doors in the nose, tail, and left side, as well as added passenger windows. One of the ten C-87As built served as President Roosevelt's personal transport. This special aircraft featured pullman type berths, two lavatories and a full galley.



Wings from the B-36 gave the giant XC-99 its lift.

Forerunner of the C-119, the Fairchild C-82 Packet.

B-24s got into the transport business a second time as C-109 flying tankers. C-109s were used to fly fuel over the Hump, and two could deliver enough fuel to power a B-29 for a raid on Japan. Rounding out the bomber to transport conversions, several B-17s were converted to C-108 transports.

A number of projects which began during WWII were not finished until the late 1940s. Among these were the conversion of the B-36 bomber into the XC-99 transport and the rebuilding of the B-29 into the C-97 transport.

In November 1947 the last production version of the twin-boomed C-82 Packet was extensively reworked with a relocated flight deck and a wider fuselage. The improved design was given the designation C-119. Flying Boxcars, as the "dollar-nineteens" were also called, reached operational squadrons just in time to take part in the Korean War. The twin-boom hauler began dropping paratroops into combat during October, 1950. In addition to being the first use of the airborne in the Korean War, this was the first time that paratroops jumped into battle along with heavy equipment, which included 105 mm howitzers, jeeps, and 3/4-ton trucks. The C-119s made still more history in December 1950 with the first airdrop of a bridge consisting of eight 4,000-pound sections of treadway span.

Even the Flying Boxcar wasn't the end of the development string for this long-lived design, though. In December 1950 the Air Force took delivery of the sole XC-120 Packplane. The Packplane was a rebuilt C-119 with the lower

Ancestor of the C-123, the Chase YC-122.

Folding wings on the XC-8 made it easy to store.

two-thirds of the fuselage configured as a cargo pod that could be detached from the aircraft and towed behind a truck.

One of the most interesting stories of this period was the development of a plywood troop glider into a powered, all-metal transport, and then into America's first all-jet transport. The Chase Aircraft Company was formed in 1943 to develop and build troop gliders. Their effort was the XCG-14, an all-plywood design which was enlarged and produced as an all-metal glider designated XCG-18. In 1948 Chase built four CG-18s for the Air Force, plus another version as a light, twin-engine transport—the YC-122. In all, the Air Force bought 13 of them which served until 1955.

Meanwhile, back at the drawing board, Chase was again enlarging the design, and prototypes of it were built. One was a glider (the XCG-20) and another was a powered transport (the XC-123). The tests of the XC-123 went well, and the Air Force eventually ordered more than 300 of them.

Although the day of the cargo glider had ended by this time, the only existing XCG-20 was fitted with four small jet engines mounted in pairs beneath each wing, and it flew as America's first all-jet transport.

An unusual situation developed when the Air Force went shopping for a large transport in the early 1950s. Normally, this would have boiled down to a competition between designs from two or more contractors. In this case, however, the decision was between two designs both put forth by Douglas.

On one hand was the C-132, a turboprop powered, four-engine airplane. Perhaps its most remarkable feature was its resemblance, both physically and statistically, to the present-day C-5A. But the winning entry was the Douglas C-133 Cargomaster, which could carry a Minuteman Missile. With the C-133, the last milestone was passed on the way to our present airlift fleet of Starlifters, Galaxies and Hercules.

So, while the fighter people look back on scenes of Eddy Rickenbacker flying over the western front and bomber folks talk about Jimmy Doolittle, we in the transport business can trace our roots back to three anonymous men trying to hoist a crate that was too large through a hatch that was too small without denting either. Come to think of it, things haven't changed all that much over the years.

Stainless steel aircraft, the C-93, made by Budd Manufacturing Company.

Y1C-17 Lockheed Vega.

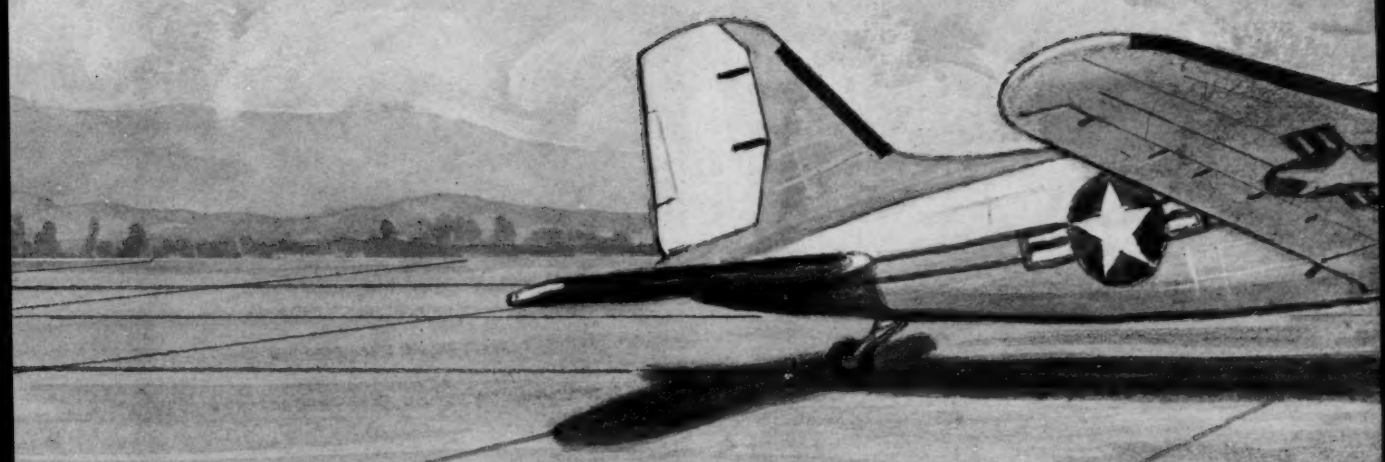
The C-87 was the transport version of the B-24.

Experimental pressurized and supercharged Lockheed XC-35.

C-47 Skytrain

If one airplane could be cited for contributing the most to airlift's legacy, it would be the C-47 Skytrain. Originally designed by Douglas as the DC-3 commercial airliner, it first flew on December 17, 1935, the 32nd anniversary of the Wright Brother's first flight. Its advanced design and superior performance made it an instant success with both the airlines and the military. *The* airlifter at that time, it continued to play an integral role in aviation far into the jet age. The C-47 was "rediscovered" many times as the answer to a variety of needs. Perhaps better known as the "Gooney Bird," after the ungainly creatures that inhabit Midway Island, the Skytrain was also known as the R4D to those who flew Navy versions. The British dubbed their C-47s, Dakotas, but whatever the name, they remain the primier airlifter of all time.

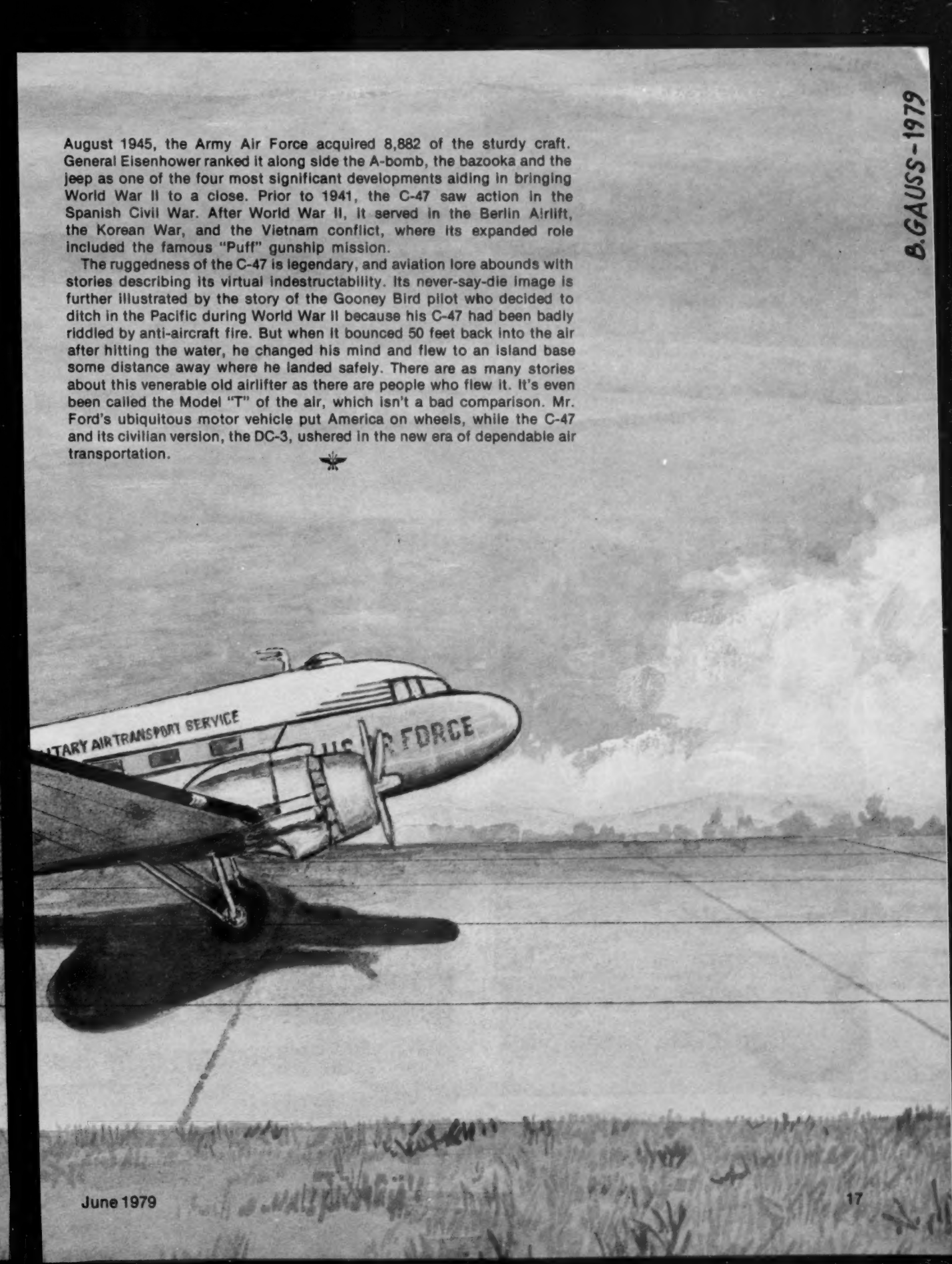
With a wing span of 95 feet and length of about 65 feet, the Skytrain was considered quite a large airplane when first introduced. Two Pratt & Whitney R-1830's, each developing 1,200 horsepower, gave it a ceiling of over 24,000 feet, a range of over 2,000 miles and a cargo capacity of 7,500 pounds. Designed to carry 27 passengers, it cruised comfortably between 165 and 180 mph and had a maximum speed of 230 mph. Almost 11,000 were built, including commercial models, and between January 1943 and



The Airlift Legacy

August 1945, the Army Air Force acquired 8,882 of the sturdy craft. General Eisenhower ranked it along side the A-bomb, the bazooka and the jeep as one of the four most significant developments aiding in bringing World War II to a close. Prior to 1941, the C-47 saw action in the Spanish Civil War. After World War II, it served in the Berlin Airlift, the Korean War, and the Vietnam conflict, where its expanded role included the famous "Puff" gunship mission.

The ruggedness of the C-47 is legendary, and aviation lore abounds with stories describing its virtual indestructability. Its never-say-die image is further illustrated by the story of the Gooney Bird pilot who decided to ditch in the Pacific during World War II because his C-47 had been badly riddled by anti-aircraft fire. But when it bounced 50 feet back into the air after hitting the water, he changed his mind and flew to an island base some distance away where he landed safely. There are as many stories about this venerable old airlifter as there are people who flew it. It's even been called the Model "T" of the air, which isn't a bad comparison. Mr. Ford's ubiquitous motor vehicle put America on wheels, while the C-47 and its civilian version, the DC-3, ushered in the new era of dependable air transportation.



Best of *Touch 'n Go*

Careful—this is my first time.

And if you kiss me, I turn into a handsome prince. (ribbitt!)

I knew crew transport was bad, but this is ridiculous!

Shucks, it always takes another quarter when you get to the good part.

Sorry, buddy, but when you go space available you can't be choosy.

Well, the D.O. said he was gonna cut his throat if we didn't block out on time.

Sire, we caught this guy tryin' to come through the gate without an I.D. card.

Let's have another look at the fuel chart.

How 'bout it grey and white ten wheeler, got your ears on?

Is this the transient quarters?

Everyone *comes to a dog and pony show.*

The Will to Live

The inspiring and informative tale of a pilot who survived a firey jet crash.

by Brig Gen William W. Spruance
USAF Retired

On a hot sticky summer evening in 1961, a T-33 crashed off the end of runway 13 at Scott AFB. News reports of the day said the pilot was killed on impact, and Brigadier General Spruance, the back-seater, had been thrown clear of the wreckage, but was seriously injured. In his own account of the accident, the General tells what really happened and how it felt to live through one of the most incredible survival stories ever documented.—Ed.

My purpose is to tell you about my experiences in a near-fatal crash in a T-33. If you are interested in a few clues on how to outwit the Grim Reaper, pay attention.

At the time, the Delaware ANG had a fighter outfit and I was the Chief of Staff and Adjutant General for Air. I figured that I should know what makes fighter pilots tick, so I got Colonel "Snapper" McCallister to fly me out to Colorado Springs in a T-bird for a business meeting. I'm not a T-bird pilot, I'm a four-engine jock. I thought when I started flying the Gooney Bird that I was taking a maximum risk by going from four engines to two, and I wasn't about to go to one.

A lot of fighter pilot rubbed off on me from McCallister, and I sorta have an idea of how those people operate. Mac was a pretty darn smart pilot—one of the dive-and-zoom types that made the transition to the all-weather professional which you guys are today. If I had my life to live over, I would certainly have selected him as a pilot to go any place at any time.

Back to the flight. We were scheduled to get off the ground fairly early for our return to Delaware by way of Scott. It was one of those days when we should have stayed in bed. Mac was late getting out to the field with some excuse about

running out of gas. I was careful not to chew him out, because I am not one of those generals who believes in going around raising hell with an airplane driver. You get them shook up and they're apt to kill you if you don't watch it. So I'm real friendly with them and wait to chew them out after we get home.

We got off late for Scott. As soon as the flaps were up, fuel started streaming out of the right main wing tank. We aborted, came back to Pete Field and had a little discussion with the transient alert folks.

They topped off the tanks and we got back into the air for Scott. When we arrived it was dark, hot and muggy. I took off my jacket before departure on the next leg. This was my first mistake. I was hot and sweating and I didn't want to catch cold when I got to altitude. If I had kept the jacket on, it would have provided insulation from the fire that I was about to be caught in. Unknown to me then, it would have greatly minimized the burns on my arms.

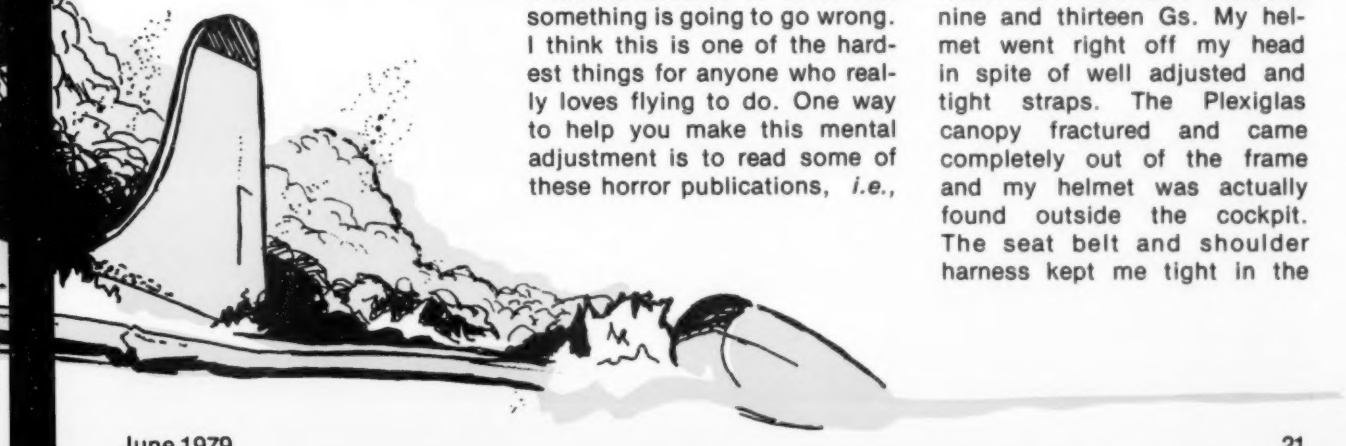
We started taxiing out and went through the regular procedures in the checklist. When I'm riding shotgun in a T-33, the seat-belt-and-shoulder-harness check means more than just seeing that I'm strapped in. I make sure that nothing will prevent me from putting my feet up on the instrument panel so I can brace myself for an impact. With your legs up on the panel, you make a natural g-suit' that will help you stay in one piece during a sudden deceleration. Then I stretch and make sure that my hands can reach the panel so that I can brace myself with them. And finally, during this check, I put my head back hard against the headrest. (I found out later that this was my second mistake. If you are going to impact, you should put your head forward with your arms and legs out against the instrument panel. If your head is back, you are going to get a whiplash which may injure your spine or, as in my case, tear off your helmet.) This little procedure that I've just told about was an exercise I used to go through prior to each takeoff.

I'm not one of those generals who believes in raising hell with my airplane driver.

It's hard for me to get into a mental attitude to think that something is going to go wrong. I think this is one of the hardest things for anyone who really loves flying to do. One way to help you make this mental adjustment is to read some of these horror publications, *i.e.*, some of these flying safety magazines.You really have to think about the possibility of pranging some time to get prepared for it. Believe me, it sure pays off.

My last check was gloves all the way up as we took the runway. Down the runway we went and off into the black night. About the time the gear was up and the flaps were coming up, the engine quit. No snap, crackle or pop—nothing. It just unwound to zero. Mac came over the interphone and said, "We're in a helluva fix. We've got to get out of this." This didn't mean to eject. We had briefed procedures and terminology and this wasn't a command to bail out. We were at about 150 feet going pretty slow and going downhill. I had a chance to go through my procedures again—chin strap tight, visor down, seat belt and shoulder harness as tight as possible. Within seconds we hit the first tree, 110 feet above the ground. I braced myself when I heard the first whap on the bottom of the fuselage.

The next thing I knew everything went red. At first I thought of fire. I found out later that it was nothing but a red-out when my head snapped forward. The deceleration force was estimated between nine and thirteen Gs. My helmet went right off my head in spite of well adjusted and tight straps. The Plexiglas canopy fractured and came completely out of the frame and my helmet was actually found outside the cockpit. The seat belt and shoulder harness kept me tight in the



seat. Just before impact I looked at the airspeed; it was 125 knots. Then everything became red and I passed out.

When I started to come to, the first sensation I had was a feeling of warmth. I felt like everything was great—a sense of well being. It was the kind of sensation that you get in the altitude chamber when you take your mask off at 35,000 feet—a danger sign that something is wrong. The next thing I thought of was getting out of there, or I wouldn't get back to any cocktail hours or see my wife and kids. (When I was in General Patton's Second Armored Division early in the war, he trained us that when you are in a bind or any kind of shock situation, you must do something—even though it may be wrong. The chances of your doing something wrong and actually hurting yourself are a helluva lot less than the chances of getting hurt if you sit there, frozen by terror, and just do nothing.)

So I was motivated to do something right away. I was ready to react, because I had gone over many times in my mind what needed to be done in this type of situation. In spite of the fact that when I woke up with this warm sensation I was completely on fire, I reached down to put the pins in the seat. There were flames all around me and I could hear my hair burning on my head just like a crackling grass fire, and looking down both sides of the cockpit was like looking into two afterburners. About then my logic took over and I started to undo my seat belt. My hands were so badly burned that I permanently injured my little finger trying to take hold of the buckle. But still according to standard procedure, though I was burning like a torch, I was just as careful as I could be about getting out of the seat without the safety pins in place. I remember taking the chute with me so I could use the canopy to wrap up in and put the fire out.

I could hear the hair on my head burning like a crackling grass fire.

I got up with the chute hanging onto me and I looked around. On the left I could see only flames. The front cockpit was full of fire and I could see McCallister doubled over with his head down in the bottom of the cockpit. There was no motion from him. (Later I learned that he died on impact.) Over to the right side I saw a creek and its water was carrying the fuel downstream. I turned around and sat on the edge of the canopy rail. For the first time I felt pain; it was so hot that I got a first-degree burn on my tail. I rolled over and sorta half dove and half fell into the water—it's tough to do a point-winning gainer while wearing a parachute and on fire. I hit the water and went to the bottom like a rock. The next sensation was pain. I reached up and could feel a fair-sized hole in the back of my head where it had struck the headrest on the rebound. I came to the surface and started a breast stroke to keep the burning fuel on the water away from me. Down to the bottom I went again. I discovered that since I didn't have the adequate religious connections to walk on top of the water, the next best thing was to walk on the bottom and go uphill. That's the technique I used to make my way up onto the bank.

A bunch of civilians came running toward the crash. I figured that the aircraft might blow up any second, so I began shouting at them to get away. That's how they found me. When the medics arrived, I asked one to cut the parachute harness off. They finally found my knife, cut the chute off, and got me into the ambulance. I started getting cold so they gave me some shots and I don't remember much of the ride.

Later I found out that on the way to the hospital the chaplain administered the last rites of the Catholic Church. That's probably why I survived, because I'm a Presbyterian and the Catholic rites wouldn't take.

But you know, I don't sell those chaplains short. When things were really tough for me in the Air Force Hospital at San Antonio [Wilford Hall], they were great. I haven't been too much of a church-goer myself—always been a believer in specialization—and when it comes to praying, I like to get a real expert like a chaplain.

Over the next two years I went through over 30 surgical procedures to get patched up. I'm still not in A-number-one shape, but I'm good enough to get my FAA private pilot's ticket. There are many things that enabled me to be in the relatively good shape that I'm in today and I'll tell you about them.

First was gloves. Anyone who flies around without gloves, in my estimation, is a plain idiot. Any of those old wives' tales about gloves getting soaked with kerosene, crinkling up and being no good, are nonsense. Mine had just about as much JP-4 on them as anybody's. If I hadn't had those gloves on, though, I would be a double-arm amputee—if I had survived at all. So it really behooves you to wear gloves.

I hadn't worn gloves all through World War II. I figured gloves were for the wintertime to keep your hands warm. I started wearing them because of something General Milliken did awhile back down in Savannah. Our outfit was flying F-86s. One of our young lieutenants came taxiing in, middle of summer and hotter than the hinges of hell, with his sleeves rolled up, elbows on the canopy rail and no gloves on. The General says to me, "Well, I don't usually beef at other people's troops, but this guy needs to learn."

When this second john got out of the cockpit, General Milliken was waiting for him. He told him about being in the RAF when the first casualties from the Battle of Britian were returning. The guys who hadn't been wearing gloves had stumps for arms, and the ones who hadn't been wearing boots had stumps for legs. Now that second balloon learned in a hurry the importance of using personal equipment.

On the way to the hospital the chaplain administered the last rights.

Next is boots. If I had been wearing low quarters instead of boots, I would be a double-leg amputee. Low-cut shoes are a complete waste of time in any fire situation. I had my boots on, and thank God I did. The fire would have burned off both legs if it weren't for them.

Finally, I can't say enough for the treatment the Air Force gives at their hospital in San Antonio, and the help from the Army Burn Center. They have, without a doubt, the greatest concentration of knowledge on burns in the whole world. They were able to save my arms and hands after many experts said it couldn't be done. The richest people in the world can't buy any better service than is available to us in the Air Force. In my book they are number one.

Then there is always the will to live. When things look real dark, it's real easy to throw in the towel and call it quits. But the human body is a remarkable thing that can come back from over the brink and recover. It can and will, if you have the proper mental attitude and the guts to stick it out. The doctors, and medical technology—and the chaplains—can perform miracles if you let them. In the final analysis, it's up to you.

ABOUT THE AUTHOR

Brigadier General Spruance is a world-famous lecturer on the subjects of crash survival and flight safety. He was commissioned into the Field Artillery, US Army, in 1939, and began active duty in 1940. After transferring to the Air Corps and completing pilot training in 1943, he flew the "Hump" airlift in the China-Burma-India Theater. After World War II, he returned home and was an original member of the Delaware Air National Guard. He was federally recognized in 1956 as a brigadier general.

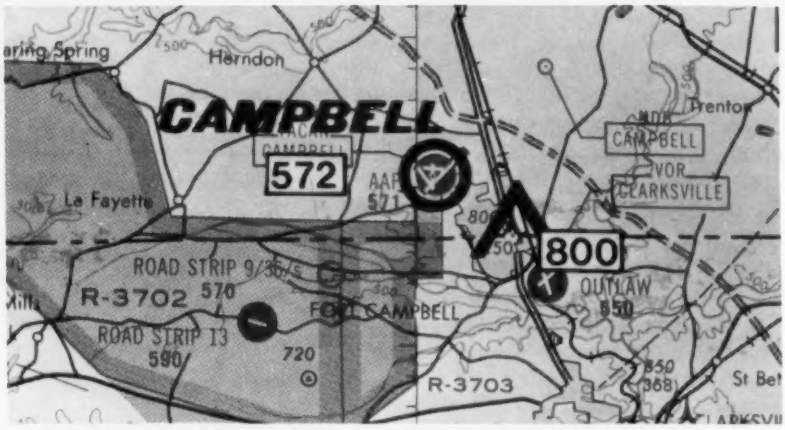
Since recovering from his nearly fatal jet crash in 1963, he has lectured to over 70,000 military people, made five training films and several other presentations. His innumerable honors are richly deserved. General Spruance entered USAF disability retirement in December 1975, but continues to lecture and keep an interest in the USAF and Air Reserve Forces.

Deja Vu*

*(day-zha-voo), [Fr. lit., already seen], the illusion that one has previously had a given experience.

Campbell AAF

Fort Campbell, Kentucky (Elevation 572 feet)



Training operations in R-3702, southwest of the field (highlighted in blue), may present a major hazard to aviation.

On short final for runway 04, you are just outside of the restricted area. Parking ramp is to the right.

Landing to the southwest, the main helicopter traffic area is to the right near the hangars.

Located about 45 miles northwest of Nashville, the home of the 101st Airborne Division (Air Assault) straddles the Kentucky-Tennessee state line. The airport is in the Blue Grass State but much of the fort itself is part of Volunteer Country.

Campbell's primary runway is 22/04 (11,800 feet long and 200 feet wide). It's served by precision and nonprecision instrument approaches. Runway 18/36 is 2,800 feet long and is sometimes used for parking during exercises. A complex of restricted areas sits about one-half mile off the departure end of 22. Go-arounds and visual approaches are flown on the northwest side of the field to avoid the extensive helicopter training.

The AAF's primary hazard is birds—both the black and the green types. From October to April, transient starlings are a moderate hazard below 1,000 feet. However, the green birds are an even more significant problem. Campbell's Army Aviation units operate about 400 helicopters of all types. Most of the chopper operations are confined to the ramp and helipad areas on the northwest side of the field, and landing zones in the main post and restricted areas. Below 4,000 feet it's a must that everybody keep a sharp look out.

—Adapted from ISD-Q6-460

Join C.R. and crew as they attempt an experimental tiptoe through the troposphere.

How d'ya like the field grade weather I ordered up for today's trip, Sam?" C.R. asked his long-suffering sidekick over the Herky's interphone.

"Great, sir; couldn't be better," replied Sam, who had been deeply engrossed in a textbook pertaining to his off-duty master's degree program ever since leveloff at cruise altitude. He shot an obligatory quickscan across the cloudless horizon and returned to his reading.

Seeing that Sam was not the least bit interested in small talk, the Aviator with Autopilot played absentmindedly with the trim for a minute or two and then called Sergeant Downs and asked him to bring up a box lunch. "I wonder what manner of culinary masterpieces the in-flight kitchen has conjured up today," the Ace AC intoned to himself without keying the microphone.

Like a child with a new set of Tinker Toys, the Eager Eater began rummaging through the tightly packed cardboard container. Plucking out a hard-boiled egg with a Jack Horner-esque flourish, he commenced his attack on the defenseless potpourri of fried chicken, cumquat and peanut butter sandwiches, artificial carrot juice, milk, a prune and a moonpie. Later, his hunger pangs at least temporarily satiated, the Galumphing Gourmet leaned back in his seat and pried at the crevices between his teeth using the mint-flavored "interdental stimulator" thoughtfully provided along with the plastic eating utensils, napkin and condiments in a special little packet in his box lunch.

"Ya' know what, Sam?" C.R. asked, once again interrupting his copilot's efforts at self-enrichment.

"I know that I only have a couple more pages left to finish in the chapter I'm reading in this textbook, boss," replied the company grade graduate student with just a trace of annoyance in his voice.

Determined to relieve his own boredom on what was turning into a long and uninteresting stateside cross-country flight, the Insistent Interrupter went ahead anyway with what he had on his mind. "I've been trundling around in these truculent turboprops for longer than I care to admit, and in all that time I've never flown much higher than 25,000 feet. Can you believe that, Sam?"

"Sure, I can believe that, boss," Sam answered tolerantly, adding, "I've never been any higher than that myself."

"Neither have I," chimed in Blinky, whose attention was suddenly diverted to C.R.'s interphone chatter and away from the SOS correspondence school volumes he had been working on at the nav table. "Me either," came the additional affirmations of Sergeants Torque and Downs.

"Well then, that settles it," quipped the King of the Cockpit cryptically.

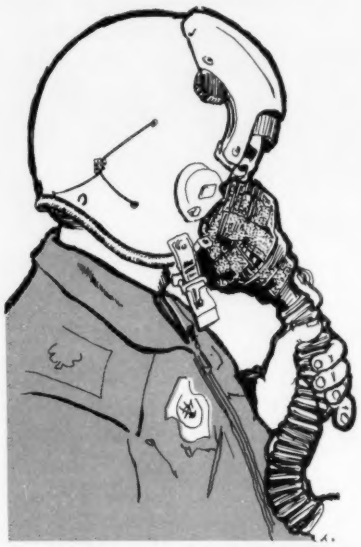
"Settles what, sir?" asked Sam, Blinky, Torque and Downs in an interphone chain reaction.

"Just as soon as we make our next report to Denver Center, I'm gonna find out exactly how far up this tactical trucker will climb. Talk about your Rocky Mountain high! Are you troops game?" asked the would-be astronaut in an attempt to enlist the crew's support, aid, and abetment for his pet project of the moment.

Sam rubbed his chin apprehensively, "I don't know, boss; there's really no good reason for us to be going any higher than we are now, and I doubt if Center will clear us to climb much more anyway."

Sergeant Torque broke in with another warning. "I'm not so sure we can keep this recyclable aluminum rivet formation properly pressurized if we get much more of a differential. She's just been holding her own as it is for the last couple of hours."

"Gentlemen, gentlemen, where's your spirit of adventure?" chided the excited experimenter. "It's VFR weather and there's no traffic, so it will be no problem getting a clearance to climb from Center. And who cares about pressurization —what do you think we carry all that LOX for, certainly not to go with bagles. We don't often get an ideal situation like this: no pax, no cargo, and a bird that's built tough. Believe me, I wouldn't consider trying this little 'high flight' if I didn't think it was okay."



A prounounced and pregnant silence permeated the cockpit as the crew pondered C.R.'s interphone salespitch. They wrestled with a mixture of doubt, reluctance and a growing curiosity over how high their turbine transport would fly and what the countryside might look like from a vantage point of perhaps eight miles up. The smoothness of the Herk's four Allisons propelling them through the brilliant midmorning sunshine seemed to add nature's endorsement to their leader's desire to have an adventure in altitude. Crediting their momentary silence to agreement with his proposal, C.R. started everybody prebreathing 100 percent oxygen for the next half-hour in preparation for their trip to the troposphere. "We'll do everything scientifically, just like the guys at the altitude chamber," pronounced the Pudgy Pilot.

C.R. was flushed with confidence as he exchanged pleasantries with Denver Center on VHF, received a clearance to climb to 40,000 feet, and closed out his transmission with a chipper, "Catch ya, next trip."

Twisting around in his seat, the Flatulant Flyboy found himself eyeball to eyeball with the rest of his grotesque, oxygen-masked crew, who had moved in closer to the front of the flight deck to get a better view of the proceedings. "Okay, Lads," he announced with a gleeful chuckle in his voice, "Going up!"

The empty Herk responded effortlessly as the Misguided Manipulator applied climb power and adjusted the flight controls to maintain a steady ascent.

Passing through 30 and 33,000 feet, everything seemed normal, but at FL 350, the turboprop began rapidly losing its desire to go much higher. "Whatsa matter, mister engineer?" prodded C.R. as he tried pushing the throttles forward a little more but got no response.

"We're about peaked out, sir," replied Sergeant Torque.

"In that case we'll just close off the bleed-air valves and see if we can't squeeze out a little more oomph from this balky boxcar—I'm gonna make 40-grand or bust trying."

"Speaking of busting, boss, we're starting to lose pressure pretty bad," warned the wary gage gazer as the laboring air-

lifter leveled itself at 37,000 and waffled along. "I'm afraid we're out of climb power for sure now," added the concerned caretaker of circuit breakers, "and the way we're losing pressure, we're gonna be out of atmosphere pretty quick if we keep this up."

"We'll just hang in here at 37-thou for a few minutes and see if we can't coax her up a little more before calling it quits," announced the high-flying heretic of established safe practices and procedures. "Meanwhile, Sam, start working on a clearance for us to descend back to about two-zero-zero."

When it finally became undeniably obvious that the hyperventillating Herk was not going to limp or be cajoled past 37,000 feet, C.R. pulled off the power, pushed the nose over and began a moderately steep descent to their new assigned altitude of 17,000.

"OOOOoooowwwww, my shoulder is killing me," Blinky suddenly howled as they passed through 29,000. It was obvious from the way he was clutching and cradling his left arm that he was in considerable pain.

"Just keep sucking on oxygen and hang tough, Blinky," soothed the Malpracticing Medical Masquerader. "It's just a little trapped gas dysbarism or dyspepsia or something like that and you'll be okay as soon as we get down to our normal flight level again and fully repressurize."

Although it surprised the Harbinger of Home Remedies as much as it did everybody else, Blinky's pain subsided after another few thousand feet of descent, and everything seemed all right the rest of the way to destination.

Bright and early the next morning there was a loud and insistant tapping on the Recumbent Rough Rider's BOQ room door. "Omygosh, I've slept right through alert time," the Confused Carouser thought as his puffy peepers finally focused on his Rolex Oyster chronometer. "Just a minute," he finally blurted out, "and I'll be right with you." Still wrestling to get his Japanese silk Happi Coat over his ample avoirdupois, he opened the door to find Sam standing there looking very solemn.

"What's up lad?" C.R. inquired. "You look like you just saw your mother in law go over a cliff in your new Cutlass Supreme."

"Bad news, sir," said Sam soberly. "I had to take Blinky to the hospital about three a.m. He was practically paralyzed with pain by the time I got him there and the docs say it's the effects of decompression sickness."

"Whaaaaat!" the astounded AC groaned in disbelief.

"Yep, they even called the flight surgeon into the ER, and when he found out we had been flying around at 37,000 feet unpressurized for 10 to 15 minutes he really hit the ceiling. He was also irate that Blinky's pain on the plane wasn't reported as soon as we hit the ground here," finished the concerned copilot.

"Is the Blinker gonna be okay?" the Worried Warrior queried anxiously.

"They think he'll be back to normal in a couple of days," said Sam, "but they're gonna keep him under observation and run more tests to make sure no permanent damage was done.

"Hoo-boy, that's a relief, but I suppose the next thing

you'll be telling me is that *I'm* grounded," moaned the one-time test pilot.

"Not just you, boss—all of us," returned Sam, "and a relief crew is on the way here from home station to take over our mission according to the word from the command post controller I talked to at what should have been our alert time. Not only that, there's a T-39 scheduled to pick us up at noon and take us back home. The word is that the wing commander is going to meet you at planeside with a special award for your "experimental" flight.

"I can imagine what it will be, too," agonized the Crestfallen Cockpiteer. "The Air Force just doesn't appreciate anybody with imagination and a sense of adventure anymore."

Quick Stoppers

Famous Fannys

In July 1971, *The MAC Flyer* published the first "Quick Stoppers." Until then, these mini-reports had gone by various titles; the last one being "Short Snorts"—suitably announced by a snorting bull. The editors reportedly wanted a no-bull image and changed the name to "Quick Stoppers," signifying the brevity of a rapid turnaround. The first QSS (Quick Stopper Starlet) was a, ah . . . a real attention getter. Her employment with the magazine was short and we don't even know her name. She was replaced in April 1972 by a young lady with some part-time journalistic experience doing advertisements for the flying safety writing contest. Miss Fanny reflected the styles of the "party suit" era of Southeast Asia. Our files show only one formal complaint about Fanny: a stan/eval person reminded us that she was out of uniform. The *TMF* staff admitted that she was a bit unconventional—the illustration was in fun and in the interests of flying safety. And the publication in her left leg pocket? *The MAC Flyer*, of course.

But times change and so do Fannys. The flippant Fanny Flyers have been replaced with a somewhat more capable and liberated lady. The current Ms. Flyer signed on in July 1976 and immediately showed her versatility by standing in for Uncle Sam. Fanny's purpose remains the same—drawing your attention to our short reports of mishaps and misadventures.

This month, past Fannys join in the celebration of the *Flyer's* 25th anniversary, and dutifully send their favorite message, "Fly Safe!"

Toward Costlier Mistakes

In the 17 years between 1959 (the year jets were first introduced into U.S. airline service) and 1976, U. S. air carriers had 101 controlled-flight-into-terrain accidents which killed 5,110 people and accounted for 54 percent of all commercial jet fatalities. Almost half (2,397) occurred during the last five years of the period. The number of planes lost during this half-decade was about one-third of the total for the whole period. The disproportionate number of victims resulted from larger airplanes carrying more passengers per flight. While the number of mistakes remained about constant, the cost in lives per error doubled.

—Flight Operations

The Jolly Green Connection

The adverse affects of marijuana on people are well documented, but what if a helicopter took a toke of grass? A Jolly Green crew recently had a chance to check it out. While parked on a turf helipad, the pilot noticed low power and torque indications on number two, so he raised the collective to do a power check. The turbo-shaft engine gave out a popping sound and the pilot lowered the collective and shut it down. Maintainers found no damage to the engine, but determined that the engine stall was caused by loose grass accumulating in front of the number two engine inlet. This incident illustrates the need for helicopter pilots to select landing zones carefully and keep their machines off the grass.

Maintaining the Balance

A perfectly good airplane with no mechanical problems crashed after takeoff recently killing eight aboard it and one on the ground. The twin engine Piper Cheyenne was destroyed and a nearby house was set ablaze. Witnesses who watched the flightcrew and passengers board prior to the crash said that the plane was loaded in a manner which placed the aircraft's center of gravity well beyond aft limits. Using known weights for the passengers and estimated weights for briefcases and equipment, NTSB officials were able to make a fairly accurate computation of the probable CG range. They found that even if passengers and baggage were loaded most favorably, the airplane would still have been beyond the aft limit. Any other loading sequence or placement of passengers would have been even further beyond limits. A series of simulated flight tests contracted for by the board showed that the improper loading would have produced severe control problems for the Cheyenne pilot. What really twists the knife is the fact that both pilots, each with over 4,000 flight hours, were qualified flight instructors. They should have known how to correctly compute the center of gravity and been aware of the consequences of an out of balance load.

The Pause That Didn't Refresh

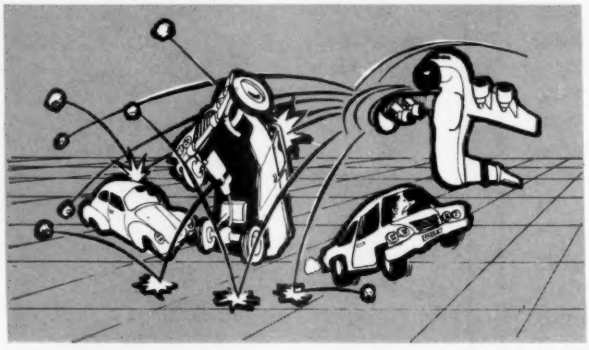
A mechanic set his half-full soft drink can inside a helicopter and climbed up on top to inspect the rotor head. After about 20 minutes he returned to finish off his cola, but the cola almost finished off the mechanic instead. As he tipped the can, he noticed a tingling sensation on his lips. He quickly realized that there was engine oil now mixed in with the fizzy pop. Luckily, the quick-thinking maintenance type was able to regurgitate most of the oily concoction. He was whisked off to the nearby medical center where he recovered satisfactorily. This incident clearly proves that popping your top in a maintenance area can be hazardous to your health, especially if you leave your can unattended.

—adapted from *Flight Fax*

QS

Raining Rocks

A rolling stone may gather no moss, but flying rocks and sand gather no friends either. A recent incident involved an unwanted confrontation between some private autos and a C-5 in the process of getting parked. Maneuvering the four-engined behemoth on the small transient ramp required a 150-degree turn. To make the turn, the pilot had to use slightly more than idle power. It was during his turn that several autos in the adjacent parking lot were showered with sand and rocks of various sizes, resulting in a number of claims for damages. While everybody agreed post facto not to park C-5s on this particular ramp in the future, there are many other airfields around whose parking areas have just as much potential for damage due to jet blast. If it looks like your aircraft might damage something with a gust of jet blast or propwash, it probably will.



Bent Jeep

A recent C-141 engine running offload (ERO) of a jeep resulted in one bent jeep and several bent-out-of-shape crewmembers. The vehicle was loaded with the rear wheels on the cargo floor and the front wheels on the ramp. Both ends were secured with two 10,000-lbs chains and a set of auxillary loading ramps was stashed underneath it. Arriving at the ERO base, the primary loadmaster positioned himself in the rear of the aircraft and gave a thumbs-up signal which was interpreted as clearance to lower the ramp. Overlooking the fact that the chains were still attached to the jeep and the aux ramps were still beneath it, the ramp was lowered. With the ever-increasing angle of the ramp and the aux ramps becoming jammed between the cargo floor and the vehicle, something had to give. The eagle-eyed ramp operator noticed that the jeep's bumpers were starting to bend in response to the moving ramp and stopped it before any further damage was done to the vehicle or the aircraft. EROs are supposed to save time but not at the expense of the cargo or the airplane.

Notable Quote

I want to emphasize that the magazine is to be by and for all MATSmen—Air Force, Navy, weather, communications, transport, rescue, photo and charting, flight service and base support personnel.

This magazine will be as good as you make it. Go to it!

—Lieutenant General Joseph Smith, USAF
The MATS Flyer, June 1954.

AFTER DEADLINES

OVER FOUR-MILLION POUNDS of equipment were recently airlifted 1,000 miles in the Middle East by just three C-5s. The Galaxys from the 436 MAW, Dover AFB, Delaware, carried 32 M-60 tanks (each weighing 98,400 pounds), six 51-ton M-88 tank retrievers, and a runway sweeper and support equipment weighing 127,000 pounds, from two bases in Saudi Arabia to Sanaa, Yemen. Over a seven-day period, 55 consecutive on-time departures were logged. Aircrews were praised for safely flying in and out of airfields "with few navaids, minimal ground handling equipment and basic air traffic facilities." Overall, the short-notice operation was termed a "monumental success" by Air Force officials.

CONSTRUCTION at Pudahuel Airport, Santiago, Chile, has closed the main runway, according to a flyer who transits there regularily for Braniff. Therefore, you may update TMF's May "Deja Vu" to show the temporary "active runway" is the parallel taxiway just west of the "old" runway. Reportedly a DC-8 can land on it with "no sweat."

BLINDLY FOLLOWING A MARSHALLER can lead a crew into an "unsurvivable" taxi accident. A recent hazard report points out that both aircrews and maintenance folks need to redouble their efforts to make sure that parking spots are clear of "invisible" obstacles--things you expect to see on the flight line--like fire bottles, maintenance stands, LOX carts, etc. "If clearance is questionable, let maintenance tow it," is still excellent advice.

JULY'S ISSUE OF THE FLYER features the first-place winning story from the 1979 MAC Flying Safety Writing Contest, plus the announcement of the other 11 winners.

CONGRATS FROM COOLSTONE:

Dear Flyer Staff,

Congratulations on the 25th Anniversary of The MAC Flyer. A lot of people have served and have published an excellent magazine over those years. You and your staff have certainly upheld a fine tradition! Craig Schafer has completed some drawings of Coolstone to help C.R. Terror celebrate

Major Wayne E. Griffith
Interceptor Magazine

Thanks for your thoughtfulness. One of Craig's drawings is located to the right. --Ed.

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Touch 'n Go

OK Rudy, let's try the Nut Cracker Suite again. And this time with feeling!